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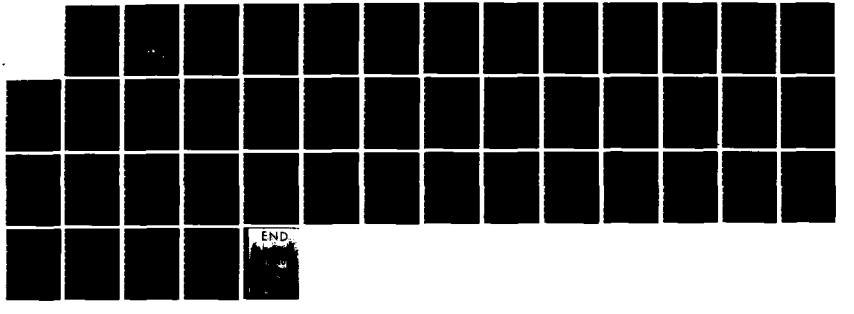

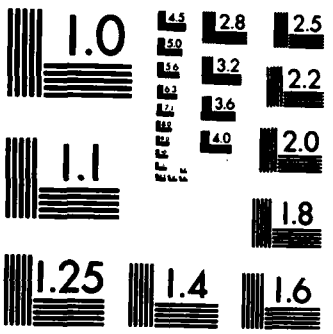

MICHIGAN STATE UNIVERSITY

Industrial/Organizational Psychology and Organizational Behavior

The Effects of Ratee Characteristics on Rater Performance Appraisal Behavior

by

Janet L. Favero and **Daniel R. Ilgen**

Purdue University **Michigan State University**

Michigan State University
East Lansing, Michigan 48824

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Purdue University Michigan State University

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Social cognition theory asserts that perceivers (raters) assign stimulus persons (ratees) to social categories. These categories help encode, store, and recall information. In this study, the effects of information about a ratee's category membership on the amount of information that raters collected about ratees and on rating accuracy were explored in a longitudinal design. One hundred fourteen subjects participated in three separate experimental sessions which spanned 3 weeks in time. Among other tasks, subjects were required to rate a subordinate that was described in a manner which either

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made it difficult or easy to assign the subordinate to a social category. It was predicted and found that raters of ratees who were easily categorized spent less time observing the ratee than raters of ratees who were less easily labeled. In addition, as predicted, the amount of time spent observing the ratee was positively related to the accuracy of performance evaluations. However, results were inconclusive with respect to the relationship between category information and rating accuracy.

The Effects of Ratee Characteristics on Rater Performance Appraisal Behavior

Accurate rating is the goal of performance appraisal research (Borman, 1978). In the quest for appraisal methods that maximize rating accuracy, past research has focused primarily upon the design of performance appraisal instruments or scales and the training of people to use these scales (Landy & Farr, 1980). Unfortunately, such research has not substantially increased our understanding of accuracy in performance appraisal (Landy & Farr, 1980; Warmke & Billings, 1980).

Several recent reviews have advocated that performance appraisal be construed as a psychological process of person perception (Feldman, 1981; Green & Mitchell, 1979; Ilgen & Feldman, 1983; Jacobs, Kafry, & Zedeck, 1980; Landy & Farr, 1980). This approach views the rating process as a three stage sequence involving the acquisition of performance relevant information from interactions between raters and ratees, the encoding or storage of that information in the mind of the rater and finally the retrival of the information when the rater is required to appraise the ratee.

Although much has been written about a process approach to performance appraisal and about the relevance of person perception (Hamilton, 1979) and cognitive psychology to understanding the performance appraisal process, surprisingly little empirical work has been conducted in which the central concern is performance appraisal (Ilgen & Favero, Note 1). The goal of the present research is to adopt a process view and to test some specific predictions derived from this approach in a context that captures what we

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believe to be the most salient characteristics of performance appraisal settings. The brief review of social cognition research that follows concentrates upon the first of the three stages of the appraisal process—that of information acquisition.

Social Cognition

A social cognition approach to person perception views the individual as an information processor,where processing is broken down into encoding, representation, and retrieval of information. It is assumed that people have limited information processing capacities and therefore can deal with only a small amount of information at a time (Taylor & Fiske, 1981).

A second assumption is that all stimuli are categorized by the rater and that the categorization is basic to perception, information storage, and information organization (Taylor & Fiske, 1981). Rosch (1976) defined these categories as "fuzzy sets" of category members. Every category member possesses attributes that resemble, to some degree, the attributes of the other category members. Categorization of a stimulus is based on the extent to which features of the stimulus overlap with those of the most typical category member, or "prototype" (Cantor & Mischel, 1979). Applied to person perception, it is thought that observers assign persons to categories; the specific categories to which a person is assigned are a function of perceiver and situational factors.

Relatively indistinguishable from categorization is the "schema" notion. Taylor and Crocker (1981) define a schema as a cognitive structure that represents some group of stimuli. These stimuli might be personality types such as extrovert or introvert; social roles, such as parent or lover; or occupational roles, such as politician or banker. Categorization or schema

processes allow the perceiver to, by assigning the stimulus person to a social category, "chunk" or cluster information quickly and appropriately, select a strategy for obtaining further information, make influences about missing information, and recall that information at a later time.

The social cognition literature suggests the following process with respect to performance appraisal. If a rater perceives ratee characteristics (traits, abilities, and behaviors) as prototypical, the rater will assign the ratee to the social category that best represents the prototype. Once categorized, the rater may make influences about the ratee concerning traits or behaviors which were not actually observed, but which are thought to correlate with those presented on the basis of the prototype (Spiro, 1977; Cohen, 1981; Snyder & Uranowitz, 1978). An observer who finds that information about a ratee matches a prototype very well may assign a ratee to the appropriate category, make confident influences, and fail to search for further information about the ratee. Given that time to observe the ratee is a valuable resource to raters, the rater may perceive that he or she does not need further information to judge performance. Later, when the rater remembers the ratee, he or she is more likely to remember information about the ratee that is consistent with the category (Cohen, 1981; Hamilton, Katz & Leirer, 1980). The longer the time between actual observation of the ratee and recalling attributes of the ratee, the more likely that only category consistent information will be recalled (Spiro, 1977). Thus, information recalled (and therefore, performance ratings) will be accurate to the extent that the ratee's actual behaviors are consistent with the category.

Hypotheses

The present study investigated the following hypothesis about performance appraisal based on the social cognition literature:

Hypothesis 1. Raters of a ratee described by nonprototypical traits will spend more time observing the ratee than raters of ratees with prototypical traits.

Hypothesis 2. The amount of time raters spend observing the ratee will correlate positively with performance appraisal accuracy.

Hypothesis 3. Given support for the first two hypotheses, raters of ratees who are described with nonprototypical traits will be more accurate than raters of ratees described as prototypical.

Necessary Conditions for Performance Appraisal Research

We have argued elsewhere (Ilgen, 1983; Ilgen & Favero, Note 1) that, although the social cognition literature is a rich source of ideas about the performance appraisal process, most individual studies fail to capture the conditions that are necessary for performance appraisal. The most salient of these conditions, in our opinion, are described below. The present research is designed to deal with each of these.

Time. Observation of ratees over time is essential in performance appraisal since the rater's impressions and evaluations are formed as the ratee's behavior is observed sequentially over an extended period, and because the rater's final judgments are based as much or more on memory as on current observation (Ilgen & Feldman, 1983). Those few studies that have incorporated a

time dimension have found no time effect after one week (Carlston, 1980; Wyer & Gordon, 1982) but have, in general found effects for two weeks or longer (Higgins & Rholes, 1978; Spiro, 1977).

Workload. Performance appraisal is one of many tasks that the rater must perform on the job. In many cases, despite the importance those concerned with personnel management may place on performance appraisal, the line manager often sees it as little more than a nuisance requirement. While not advocating that performance appraisal be underplayed, research on it should not allow the rater the luxury of focusing full attention on ratee evaluation. Most performance appraisal research concerned with process does just that.

Ratees. A typical method for social cognition is to present the rater with written information, such as traits and behaviors, about the ratee. Trait words and written descriptions do not have the ambiguity of meaning or the potential for alternative interpretation that are possible with more realistic person perception situations (Hamilton, 1979; Fiedler, 1982). Therefore, research on the performance appraisal process should attempt to build in more representative presentations of the ratee; certainly the written descriptions should be avoided.

Job Knowledge. The final condition deemed important is that the rater be very familiar with the nature of the job that the ratee performs. Individuals differ in the social categories that they tend to use to judge others (Higgins, King, & Mavin, 1982). In many social cognition studies, the subjects may vary in their familiarity with the social categories used, such as heterosexual and homosexual lifestyles (Snyder & Uranowitz, 1978), or waitresses and librarians, (Cohen, 1983). Familiarity with the categories may affect the category accessibility (Fiske & Kinder, 1981).

Method

Subjects

Three groups of subjects participated in the study. The primary group consisted of 114 male and female pharmacy students chosen because of their familiarity with the job of nurse. All were members of an undergraduate student pharmacy organization. This student organization was paid for each person who participated in the study.

A second group of 267 undergraduates enrolled in an introductory psychology course provided trait ratings necessary for the development of stimulus materials. These subjects received course credit for participating in the study.

The third group consisted of 10 graduate and 25 undergraduate students who provided input into the development of stimulus material. Members of all three groups participated voluntarily.

Design

A 2x2 factorial design with repeated measures on one of the dimensions was used. In addition, a separate group (described below) was included as a control. The independent variables were: (1) prototypicality of ratee traits (prototypical or nonprototypical), and (2) time (immediate and a 3 week delay). Time was the repeated measure dimension. Subjects were assigned randomly to one of two prototypicality conditions. In the first condition, labeled the Nonproto-Free group, the ratee was described with nonprototypical traits; in the second condition, labeled the Proto-Free group, the ratee was described with prototypical traits. In both groups, subjects were asked to make an initial performance rating of the ratee and one at the end of three weeks.

As stated in hypothesis #1, it was predicted that prototypicality of the ratee would affect the amount of time subjects spent observing the ratee. If the predicted difference between these two groups in observation times occurred, it would confound the effects of prototypicality with amount of time observing. To eliminate this confound, a third condition was established. In this condition, labeled Proto-Nest, the ratee was described with prototypical traits and raters were required to observe the ratee for a fixed amount of time. The observation time was established by yoking each subject in the Proto-Nest group with one in the Nonproto-Free group and requiring him or her to view the tapes for the same amount of time as the Nonproto-Free subject with whom he or she was paired.

Development of Stimulus Materials

Prototypical and Nonprototypical Traits. Two "personality types" (social activist and cultured person) were selected from those found by Cantor and Mischel (1979) as social categories that people use. These were chosen because they were likely to exist at work (other such stimulus persons used by Cantor and Mischel were criminal madman, phobic, or comic joker) and did not appear to be strongly positive or negative (such as extrovert, an emotionally unstable person, or a criminal madman). Given the evaluative nature of appraising performance, it was felt that the prototype chosen should influence judgments but not dominate the evaluative charateristics of those judgments.

To identify traits to be used in the nonprototypical and prototypical conditions, forty-four trait adjectives were judged on a 5 point scale (highly improbable, improbable, unsure, probable, highly probable) for the degree to which each related to the personality types of "social activist" and "cultured

person". Trait ratings that correlated highly with the prototype label were used to describe the ratee in the prototypical ratee conditions.

To describe the nonprototypical ratee, it was necessary to identify a group of traits that are considered unlikely to covary; thus, the 39 traits were rated on the degree to which they typically occur together. These items were of the following form: "If a person is KIND, with how much confidence can you safely assume that they are also THRIFTY? A group of traits for which subjects indicated low confidence in assuming that the traits typically occur together were used to describe the nonprototypical ratee.

The traits were also rated in relation to five dimensions of nurse performance identified by Smith & Kendall (1963).[1] Each trait was first rated in terms of the level of performance it predicted for each dimension by an item of the following form: "If all that you know about a nurse is that he/she is FRANK, then how would you rate her performance on the following dimensions?" The dimensions were then presented along with a five point rating scale (very poor, below average, average, above average, very good). Finally, subjects were asked to indicate how much confidence they had in the accuracy of their response to each item. These data were provided by a group of 267 undergraduates.

Traits were chosen to form the stimulus material for prototypical or nonprototypical conditions in the following way. First, only those traits rated as having a high probability of occurring with the personality types (social activist or cultured person) were considered for the prototypical condition. Traits rated as unlikely to occur together were considered for the nonprototypical condition; here it was assumed that because they were not thought to occur together, these traits would not represent any general personality type.

Five traits were chosen for each condition (prototypical and nonprototypical). Traits in the two conditions were matched as well as possible on: 1) predicted level of performance for each job dimension; 2) confidence with which those predictions were made; and 3) likeability and meaningfulness (based on data from Anderson, 1968). The traits finally selected for the prototype condition described the ratee as a "social activist" who was purposeful, frank, persistent, organized, and touchy. The traits selected for the nonprototypical condition described the ratee as tender, unimaginative, clean, noninquisitive, and artistic.

Stimulus Materials. The stimulus material was a videotape featuring a female nurse in a hospital setting. The tape included 40 short (1 to 3 minute) scenes which depicted 8 examples of ratee job behavior for each of the five job dimensions. The dimensions were: Knowledge and Judgment, Human Relations Skills, Conscientiousness, Observational Ability, and Organizational Ability. Some of the behavioral examples were taken directly from the BARS scale, some were taken from a packet describing the scale and thus had scale values, and others were created by the experimenters. The ratee's behavior was designed to vary in the degree to which it was consistent with the performance levels predicted for each job dimension by the prototypical and nonprototypical traits, as indicated by the pretesting data. On two dimensions (Conscientiousness and Observational Ability) the ratee always showed good performance because pretesting had indicated that both the prototypical and nonprototypical sets of traits implied above average performance on these dimensions. Thus, behavior was designed to be consistent with that predicted by the traits. These dimensions will be referred to as the "high consistency" dimensions. On two other dimensions (Knowledge and Judgment, and Human Relations Skills) the ratee

was constructed to show instances of both high and low performance. Because the traits predicted above average performance for Knowledge and Judgment, and average performance for Human Relations Skills, the ratee's behavior was of "mixed consistency" with the predictions from the traits. Finally, on the fifth dimension (Organizational Ability), the ratee always showed poor performance, which was inconsistent with the above average performance predicted by the traits. The ratee showed behavior clearly inconsistent with predictions on only one dimension so that her overall behavior would be fairly supportive of the trait descriptions. It was felt that if her overall behavior clearly contradicted the trait description, subjects might become suspicious of the manipulation. The forty scenes were ordered so that the performance information presented for each dimension would be balanced across episodes fairly evenly.

After tape development, ten graduate students in the Industrial/ Organizational psychology and 25 undergraduates, none of whom knew the intended "true scores" of the scripts, rated the performance of the ratee depicted on the tape using a modified version of the Smith and Kendall (1963) BARS (see description of measures used, below). The graduate students observed the entire 48 minutes of tape, while the undergraduates watched only 24 minutes. The twenty-four minutes time was closer to the amount of time most actual subjects observed the tape. T-tests (Bonferonri t statistic, Meyers, 1972) comparing these two groups of ratings produced a significant difference on only one of the five performance dimensions. This difference in ratings on the one dimension was uninterpretable. Because the graduate students were trained concerning rater errors and generally appeared more conscientious and attentive during the tape observation and rating, their scores were used as the "expert" standard against which rating accuracy was computed.

Procedure

Subjects participated in the study in three separate sessions. Performance ratings were obtained at the first and last session; time spent observing the videotape was measured in the second session. Session 1 and Session 2 were separated by 13 to 15 days and Session 2 and Session 3 were separated by 6 to 8 days so that the study spanned about 3 weeks for each subject.

In all sessions, each subject was assigned to two small, adjacent, sound-proof booths; one booth was designated as the subject's "office" and the other as his or her "viewing room." Both rooms featured a desk and headphones through which the subject could converse with the experimenter. The office also had an in-basket filled with tasks. The viewing room held a video monitor. The entire research facility included a total of 8 booths so that up to four subjects were run at a time. All subjects run simultaneously received the same prototypicality manipulation.

At the start of Session 1, each subject sat alone in his or her office and received a ten minute, tape recorded introduction to the experiment via the headphones. Subjects were told that they were to play the role of a "head nurse or nurse supervisor" at the fictitious Wabash Hospital. A "supervisor manual" allowed subjects to read instructions as they were presented orally. The introduction included a brief description of the subject's supervisor, co-workers (from whom the subjects would be receiving in-basket items), and most importantly, the subordinate named Kate. The description of Kate included the prototypicality manipulation. The two prototypical conditions (Proto-Free and Proto-Nest) included the name of the prototype, analogous to Cantor and Mischel's (1977) "prototype explicit" condition, and read as follows:

Kate Tiller - Kate has been working as a staff nurse for two years. She is considered the "social activist" type, and spends most of her free time at political meetings. She has spoken out in favor and against causes on several controversial topics. Others have described her as purposeful, frank, persistent, organized, and touchy.

The brief explanation of the term social activist mentioned before the traits was included to explain the term "social activist", to standardize its' definition across subjects, and to increase the strength of the manipulation without providing any performance related information. The nonprototypical condition included the following description:

Kate Tiller - Kate has been working as a staff nurse for two years. Others have described her as tender, unimaginative, clean, noninquisitive, and artistic.

The introduction also explained the subjects' specific job tasks and some rules. The tasks helped to create a context in which performance appraisal was only one part of each subject's workload. The tasks included: 1) reacting to several in-basket items, 2) rating one subordinate (Kate) at both Session 1 and Session 3, and 3) responding to telephone messages (presented on a tape recorder in each office). The in-basket tasks simulated the job of nursing to some degree, and included the following: reading through patient histories and taking a drug inventory, writing a schedule for nurses' hours, recategorizing a list of drugs, writing an essay on the ethical aspects of a treatment for Down's Syndrome infants, taking supply inventory, and a few others.[2] The telephone messages were ostensibly from co-workers introduced in the supervisor manual and the messages were related to the in-basket items. An incentive for good

performance on both the tasks and the rating was presented as follows:

> PAY: You are responsible for all nursing care provided on your unit. Specifically, your performance will be rated on:
>
> 1) QUALITY and QUANTITY of in-basket task responses.
>
> 2) ACCURACY in EVALUATING subordinates. (Your ratings of Kate).
>
> If you perform in the top 10% as a supervisor, you will personally receive $10.00.[3]

Subjects were not allowed to take any in-basket work out of their office. This ensured that whenever subjects chose to enter the viewing room to observe the subordinate, they were decreasing the time they could spend working on the tasks. Following the 10 minute introduction, subjects were asked to go into their viewing room for an introduction to their subordinate and the observation task; they then walked into the viewing room and sat facing the video monitor. Before the videotape began, the subordinate description which included the prototypicality manipulation was repeated over the earphones. All subjects watched the first 10 episodes of the videotape. This portion of tape was designed to present approximately equal amounts of information on all five performance dimensions. After viewing the first ten episodes of the videotape, subjects in the Proto-Free and Nonproto-Free conditions were told that they could enter the viewing room whenever they chose, and turn the videotape on and off by pushing a specific button. The Proto-Nest subjects were told that they would be instructed about when to return to view Kate at work. All subjects were then told that they were free to return to their office and begin work on the in-basket tasks. They were also told that their first task was a

performance rating of Kate (the subordinate), and that the experimenter would come by and pick up their rating in 10 to 15 minutes. This measure was the Time 1 rating. Subjects were not allowed to view any more of the tape before completing the rating form; afterward, however, subjects in Nonproto-Free and Proto-Free groups were free to work in their office or observe the tape. The amount of time each subject in these two groups spent watching the tape by choice was measured. Forty minutes after the start of the session, subjects were told that they had 10 minutes left in this session. Session 1 lasted 50 minutes.

Session 2, held approximately two weeks after Session 1, began with each subject seated in his or her office. As in Session 1, the subjects read the "supervisor manual" as it was also read to them over the earphones; this included a repetition of the prototypicality manipulation (an introduction to other employees), the criterion for bonus money (quality and quantity of task performance and accuracy in rating the subordinate) and rules (e.g., do not take work out of your office). In addition, a "recommended strategy" was presented as follows:

> Recommended Strategy
>
> Because the $10.00 reward depends upon your accuracy in rating Kate and your task performance, you should try to balance your time between observing Kate and working on the tasks. If you do not remember Kate's description or performance very well, and do not think that you will be able to rate her accurately next week, you should spend more time observing Kate and less time working on the

tasks. If you are confident that you will be able to rate Kate accurately in Session 3 next week, you should spend less time observing Kate and more time working on the tasks. In either case, the key is to allot your time effectively between observing Kate and working on the tasks.

After the introduction, subjects in Nonproto-Free and Proto-Free groups were free to work in their office or to watch the videotape. Amount of time spent watching the tape was recorded. Subjects in the Proto-Nest received instructions identical to the Proto-Free <u>except</u> they were told when and how long to view the videotape. Session 2 lasted 50 minutes.

Session 3 was held approximately one week after Session 2. It began with rating Kate on the same modified BARS presented in Session 1. This was followed by a post-experimental questionnaire and debriefing. Session 3 lasted about 30 minutes.

Measures

<u>Time</u>. For observation of the ratee, the total time spent observing the stimulus tape by choice was measured for the Nonproto-Free and Proto-Free groups. This measure was taken during the last 15 minutes of Session 1 and throughout Session 2 when subjects in the Nonproto-Free and Proto-Free groups were free to observe the videotape if they chose to do so. The time measured began when the subject pushed the video-
tape start button and ended when the subject pushed the stop button. Since time was manipulated independently for the Proto-Nest group, it was not a relevant dependent variable for that group.

Performance. Performance ratings for the nurse on the videotape were collected in Session 1 immediately after the 10 episode introduction to the videotape and again in Session 3. Performance ratings were made on a modified version of the Smith and Kendall (1963) BARS scale that was used in the developement of stimulus materials. The instrument identifies five dimensions for the job of hospital staff nurse (Human Relations Skills, Conscientiousness, Organizational Ability, Knowledge and Judgment, and Observational Ability). For each dimension, the instrument includes a separate page with a 9 point scale. At the top of the page is a dimension definition; on the right are 8 behavioral examples of high, average, and low performance and the examples are linked to a specific scale value. The original BARS was modified by removing the specific behavioral examples that were shown on the videotape, leaving 5 rather than 8 behavioral examples per dimension. Thus, none of the behavioral examples listed on the BARS were directly observed by the ratee.

Accuracy. Three indexes of accuracy were constructed by comparing the ratings of Kate obtained from the subjects to those provided by the expert raters. All three represented forms of accuracy described by Cronbach (1955) and frequently used for performance appraisal accuracy measures (e.g., Bernardin & Pence, 1980; Borman, 1977; Murphy, 1982).

The first index, termed overall accuracy, is simply the squared difference between the subjects' rating and that of the experts on each dimension where the experts' rating serves as the standard to which the subjects' rating is compared. More formally, the index is as follows:

$$OA^2 = \sum_{i=1}^{5} (X_i - S_i)^2$$

Where

OA = Overall Accuracy

X_i = Subjects' rating of Kate on dimension i,

S_i = The standard for dimension i, and

5 = The number of dimensions

The second index, elevation (EL), reflects any general rating tendency in the way the person uses the scale, and is defined as:

$$EL^2 = (\sum_{i=1}^{5} X_i/5 - \sum_{i=1}^{5} S_i/5)^2$$

The final accuracy rating, called stereotype accuracy (SA), reflects the raters' ability to discriminate among relative levels of dimensions across ratees. It was constructed as follows:

$$SA^2 = \sum_{i=1}^{5} [(X_i - X) - (S_i - S)]^2$$

Results

Time Spent Observing the Ratee

Hypothesis #1 stated that raters of a ratee described by nonprototypical traits should spend more time observing the ratee than raters of ratees with prototypical traits. To test this, t-tests were conducted comparing observation times in the only two groups that were allowed to choose the time to view subordinates--Nonproto-Free and Proto-Free groups. Table 1 shows that, as predicted, the Nonproto-Free group spent significantly more time observing the videotape in Session 2 and in total than the Proto-Free group. The lack of significant difference in observation time for Session 1 is not surprising since very few subjects in either group spent any additional time observing the tape beyond the required ten minutes; the number of required activities in the first session left little time for anything else. Thus, hypothesis #1 is supported.

Insert Table 1 about here

Rating Accuracy

Hypothesis #2 stated that the amount of time raters spent observing the ratee would correlate positively with accuracy in evaluation of the ratee. To investigate this hypothesis, total time spent observing the tape during both sessions was correlated with each of the three accuracy measures. In all cases, accuracy was based upon the second rating provided by the rater. The first rating occurred at a point when all raters had observed the tape for the same amount of time. Table 2 shows that the amount of time spent observing the ratee was negatively correlated with all three accuracy measures when sufficient time was allowed for variability in observation time. Such variability did not exist in Session 1. Thus, hypothesis #2 was supported.

Insert Table 2 about here

Prototype Effects on Accuracy

The final set of analyses were based on the assumption that if prototype affected observation time and time affected accuracy, then prototypes should affect accuracy through their effects on time. Three 2x2 analyses of variance,

(a separate analysis for each accuracy index) were run using group membership and session as the independent variables and accuracy at time 1 and time 2 as the dependent variables. Tables 3 and 4 report the analyses of variance summary tables and cell means respectively. Although the pattern of the means across groups was as expected the effect was not sufficiently strong to reach significance.

Insert Tables 3 & 4 about here

Discussion

Time Spent Observing the Ratee

The data clearly indicated that knowledge about general ratee characteristics, called prototypes in the social perception literature, influence raters. Presumedly, such information leads the rater to conclude that he or she possesses adequate information about the person to be rated, making it unnecessary to collect more information by observing additional ratee behavior on the job (Feldman, 1981). The present study extended previous findings with respect to the relevance to performance appraisal by simulating work load in such a way that raters with multiple supervisory responsibilities had to make choices about how long they could afford to observe the ratee. Previous studies have demonstrated only that perceivers may search for information that is consistent with a category (Snyder & Swann, 1978), or that perceivers may be

more attentive to category consistent information (Zadny & Gerard, 1974; Snyder & Cantor, 1979). Such studies were not conducted in a context that was representative of performance appraisal: (1) they were conducted over a short time period (one session); (2) the subjects' only task was to perceive the stimulus person; (3) the stimulus people were "paper people" (except for Snyder & Swann, 1979); and (4) the dependent measures were simply what questions the subjects asked (Snyder & Swann, 1979).

The finding that raters of a nonprototypical ratee spend more time observing the ratee also is consistent with studies in the attribution literature which report that disconfirmed expectations about a stimulus person stimulate a perceiver's search for causal information (Pyszczynski & Greenburg, 1981; Wong & Weiner, 1981). The raters of the ratee with nonprototypical traits probably had fewer specific expectations than raters of prototypical ratees. With few specific expectations about the ratee's future performance, the rater should be unsure about what to expect next from the ratee and, therefore, should attempt to collect more information in order to gain more confidence in the rating to be provided. Because a perceiver's expectations are derived from knowledge of lasting characteristics of the stimulus person (Green & Mitchell, 1979), raters of prototypical ratees could develop expectations about the ratee's performance based not only on the 5 traits presented but also on a whole array of traits thought to covary with the prototype.

Observation Time and Accuracy

Time spent observing ratee behavior consistently correlated with rating accuracy regardless of the way in which accuracy was defined. The more time spent observing, the more accurate were the performance ratings.

Henneman & Wexley (in press) found a similar relationship between time spent observing ratees and rater accuracy. In their case, raters were independently assigned to conditions that controlled the amount of time raters were allowed to observe ratees. Our results extend their findings by showing that these differences occur in the more typical condition where the rater's decision to observe or not observe influences the amount of time spent watching the ratee perform his or her task.

Prototype effects on Accuracy

The expected effect of prototypes on accuracy through their effects on time spent observing ratees did not occur. In spite of the fact that effects were marginally significant ($p \leq .052$), these findings were not sufficiently strong to produce the expected result. There are several possible reasons for this lack of effect. First, recall that the five performance dimensions used to rate the nurse varied in the extent to which knowledge of prototypicality was believed to be associated with the dimension. Actual performance on only two dimensions was always consistent with what would be expected from the trait description. It is possible that by collapsing over performance dimensions for accuracy we minimized the prototype effect due to the different predicted effects for different dimensions. Therefore, we reanalyzed the data separately by dimensions rather than collapsing across dimensions. The prototype effect did not occur for any of the dimensions, making this alternative explanation untenable.

Another possible reason for the lack of an effect goes beyond simple amount of observation and relates to the "memory decay" effect of prototypes perceivers. Recall that, over time, people tend to forget information

inconsistent with prototypes and falsely remember information not actually observed if it is consistent with the prototype (Carlston, 1980; Hastie, et al, 1980; Wyer & Gordon, 1982). The memory decay effect takes time. How much time is not clear. Perhaps the 7-9 days between observation in Session 2 and rating in Session 3 was not sufficient for this effect.

An additional problem is the attributions raters may have made about the ratee's behavior. Recently, Crocker, Hannah, and Weber (1983) found that if information inconsistent with traits used to describe a stimulus person was attributed to internal causes, then that information is actually more likely to be recalled than consistent information. Further, they found that subjects preferred situational attributions for inconsistent information and dispositional information for consistent information. Examination of the stimulus tape scripts used in the present study verifies that much of the ratee's behavior which was inconsistent with the traits (low performance on mixed and inconsistent dimensions) might easily have been attributed to dispositional or internal causes, thereby increasing the likelihood that it might be recalled. For example, in one scene where Kate, the ratee, shows low organizational skills and is late taking a patient to get an x-ray, she apologizes to the head nurse by saying "Oh dear! I thought I'd have time to take all the morning blood pressure readings before his appointment!" As Wood and Mitchell (1981) found, such apologies allow the perceiver to make internal attributions about the behavior. If this effect were to occur, we would expect that dimensions where behavior was inconsistent with the traits to produce greater accuracy for all raters at both time 1 and 2. Indeed, when we inspected performance accuracy by dimension, dimensions of mixed and low consistency did produce greater rating accuracy than high consistency dimensions for all groups at either time 1 or time 2 for both overall and stereotype accuracy indexes.

Finally, there is always a potential problem with the difference scores used to compute rating accuracy (Wall & Payne, 1973). Squared difference scores for those dimensions with expert scores in the middle of the scale have lower expected values by chance alone than the scores for dimensions with expert scores that have high or low scale values. Such lower scores would be interpreted as indicating greater rating accuracy. Inspection of the data confirm that the dimensions with expert scores at the middle of the scale were rated with slightly more accuracy, as indicated by lower scores.

This difference score issue would present more of a problem to the present study if a main effect for dimensions within one of the prototypicality manipulations was used to test a hypothesis; fortunately, no hypotheses were tested in this way. For the present study, this property of difference scores is less problematic because tests of hypotheses that compared dimension scores were made across groups or time. For these comparisons, the true score and possible range of accuracy scores remained constant for each dimension across groups or times. On the other hand, the fact that observation time correlated with rating accuracy as predicted decreases the feasibility of attributing the lack of effects for prototype on accuracy to properties of the index.

In the absence of a compelling alternative explanations and along with the presence of support for prototype effects on observation time and time on accuracy, it seems reasonable to conclude that prototypical (or as more commonly termed, stereotypical) ratees have the potential for being observed less by those responsible for rating them and for being less accurately rated as a consequence. The existence of this potential may be particularly problematic if the prototype is correlated with performance levels. For example, if a worker fits the stereotype of the "green young manager" in appearance and this

stereotype is also associated with beliefs that "those people" are over-confident, impatient, and take unnecessary risks, then persons who fit the prototype may be more likely to be observed less and consequently less able to contradict the rater's beliefs. Obviously, we would be going far beyond the data to conclude that this effect frequently occurs. Yet, the potential implication of these data is sufficiently important to deserve further attention.

Footnotes

1. We wish to thank Patricia C. Smith for providing us with this scale.
2. Other manipulations and measures included in the study are not reported here.
3. Since there was no good way to judge supervisory performance 10% of the subjects were selected at random to receive a $10.00 bonus after the study was completed.

Reference Note

1. Ilgen, D.R., & Favero, J.L. Methodological contributions of person perception to performance appraisal. Department of Psychology, Michigan State University, E. Lansing, MI, unpublished paper, 1983.

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Table 1

Comparisons of the Amount of Time Spent Observing the Ratee Videotape for Nonproto-Free and Proto-Free Groups.

Session	Group	Mean Time (in minutes)	t value	df	p level*
1	Nonproto-Free	.35	-.08	73	n.s.
	Proto-Free	.38			
2	Nonproto-Free	9.76	2.08	70	<.05
	Proto-Free	7.15			
Total	Nonproto-Free	9.33	1.82	76	<.05
	Proto-Free	6.98			

*one tailed

Table 2

Correlations Between the Total Time Spent Observing the Ratee and Rating Accuracy at Session 3 (time 2) and for Session 1 and Session 3 Combined (total) for Subjects in all Groups.

Accuracy Index	Performance Rating	r	p level
Overall	Session 1	-.12	.09
	Session 2	-.21	.01
	Total	-.23	.01
Stereotype	Session 1	.00	.48
	Session 2	-.31	.00
	Total	-.15	.06
Elevation	Session 1	-.18	.02
	Session 2	-.16	.04
	Total	-.22	.01

Note: A negative coefficient indicates that the more time spent observing, the greater the rating accuracy.

Table 3

Analysis of Variance Summary Tables for the Three Accuracy Measures Across Two Groups (Nonproto- and Proto-Free) and Two Time Periods.

		Elevation Accuracy			Stereotype Accuracy			Overall Accuracy		
Source	df	MS	F	P-level	MS	F	P-level	MS	F	P-level
Group (G)	1	19.16	3.91	.05	.39	.07	.79	25.02	2.44	.12
Error	70	4.90			5.64			10.26		
Time (T)	1	1.29	1.29	.26	31.73	5.84	.02	45.80	6.57	.01
T x G	1	.47	.47	.49	5.66	1.04	.31	2.86	.41	.52
Error	70	1.00			5.43			6.98		

Table 4

Cell and Marginal Means of Accuracy Measures for Nonproto-Free and Proto-Free Groups

Group	Elevation Accuracy			Stereotype Accuracy			Overall Accuracy		
	Time 1	Time 2	$\bar{X}$	Time 1	Time 2	$\bar{X}$	Time 1	Time 2	$\bar{X}$
Nonproto-Free	.73	.65	.69	4.57	3.24	3.91	5.30	3.89	4.50
Proto-Free	1.57	1.27	1.42	4.28	3.74	4.01	5.86	5.01	5.43
Column Means	1.16	.97	1.07	4.42	3.50	3.96	5.59	4.47	5.03

Note: Higher means indicate lower accuracy.

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Millington, TN 38054

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Washington, D.C. 20415

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Science and Leadership
U.S. Air Force Academy, CO 80840

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2431 North Edgewood Street
Arlington, VA 22207

LIST 14 CURRENT CONTRACTORS

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Department of Psychology
University of Hawaii
2430 Campus Road
Honolulu, HI 96822

Jeanne M. Brett
Northwestern University
Graduate School of Management
2001 Sheridan Road
Evanston, IL 60201

Dr. Terry Connolly
Georgia Institute of Technology
School of Industrial & Systems
Engineering
Atlanta, GA 30332

Dr. Richard Daft
Texas A&M University
Department of Management
College Station, TX 77843

Dr. Randy Dunham
University of Wisconsin
Graduate School of Business
Madison, WI 53706

Dr. Lawrence R. James
School of Psychology
Georgia Institute of Technology
Atlanta, GA 30332

Dr. J. Richard Hackman
School of Organization & Management
Box 1A, Yale University
New Haven, CT 06520

Dr. Frank J. Landy
The Pennsylvania State University
Department of Psychology
417 Bruce V. Moore Building
University Park, PA 16802

Dr. Bibb Latane
The University of North Carolina
at Chapel Hill
Manning Hall 026A
Chapel Hill, NC 27514

Dr. Edward E. Lawler
University of Southern California
Graduate School of Business Administration
Los Angeles, CA 90007

Dr. William H. Mobley
College of Business Administration
Texas A&M University
College Station, TX 77843

Dr. Thomas M. Ostrom
The Ohio State University
Department of Psychology
116E Stadium
404C West 17th Avenue
Columbus, OH 43210

Dr. Robert Rice
State University of New York at Buffalo
Department of Psychology
Buffalo, NY 14226

Dr. Benjamin Schneider
Department of Psychology
University of Maryland
College Park, MD 20742

Dr. H. Wallace Sinaiko
Program Director, Manpower Research
and Advisory Services
Smithsonian Institution
801 N. Pitt Street, Suite 120
Alexandria, VA 22314

Dr. Richard M. Steers
Graduate School of Management
University of Oregon
Eugene, OR 97403

Dr. Harry C. Triandis
Department of Psychology
University of Illinois
Champaign, IL 61820

Dr. Anne S. Tsui
Duke University
The Fuqua School of Business
Durham, NC 27706

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University of Minnesota
Office of Research Administration
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St. Paul, MN 55104

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